

## **PREVIOUSLY...**

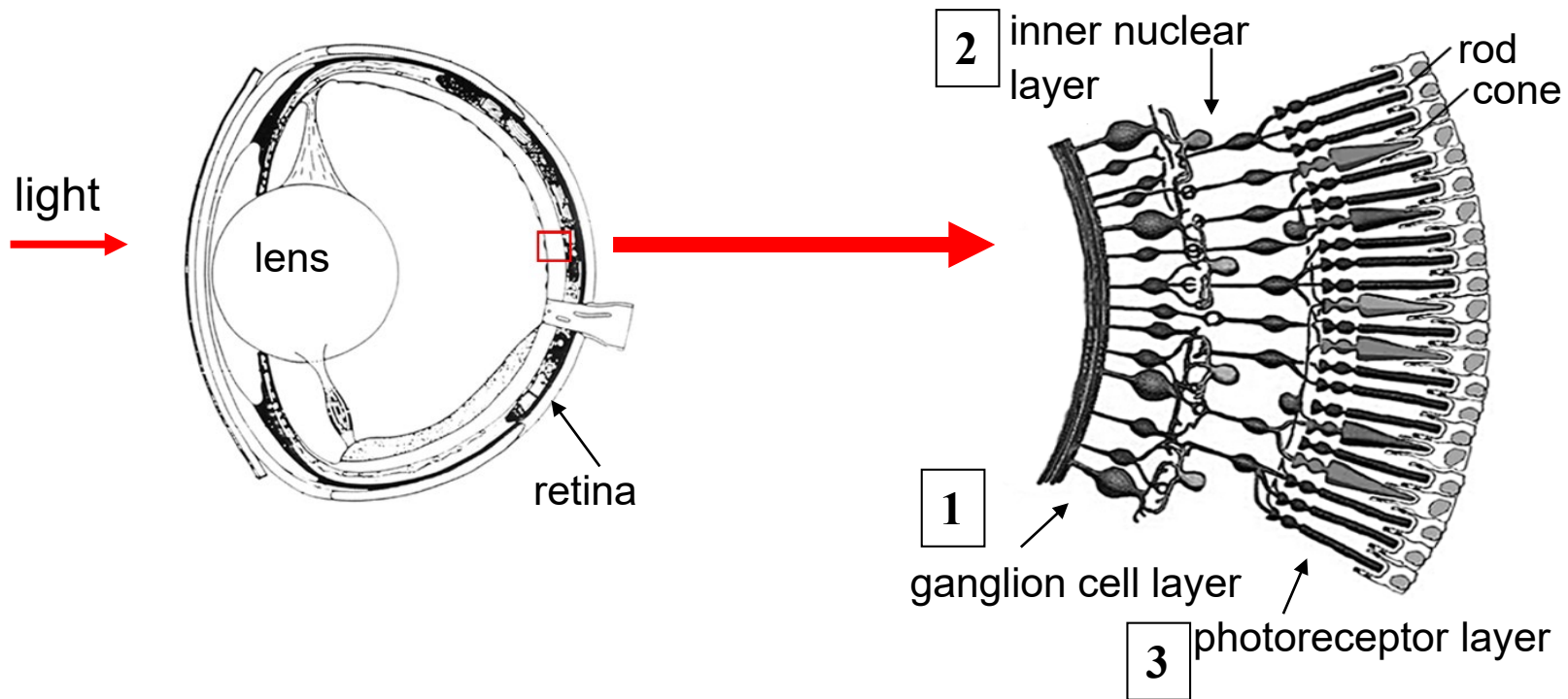
**Lots of information about the significance of RGC numbers and densities**

**More information about the numbers and dimensions of photoreceptors**

**But hopefully some of you have been wondering “How?”**

**THIS VIDEO: The secrets behind analysing retinal specialisations**

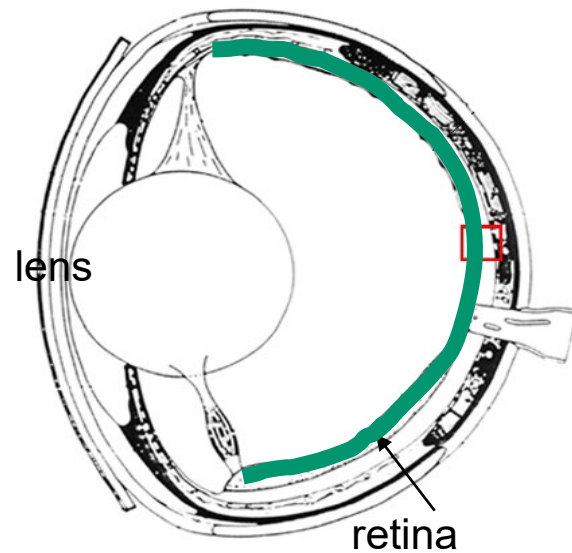
# Vertebrate retina: 3 layers



1. ganglion cell layer: information conveyed to brain via optic nerve
2. inner nuclear layer: signals relayed to ganglion cell layer
3. photoreceptor layer: visual image transformed into electrical signals (neural image)

# Cell distribution: retinal wholemounds

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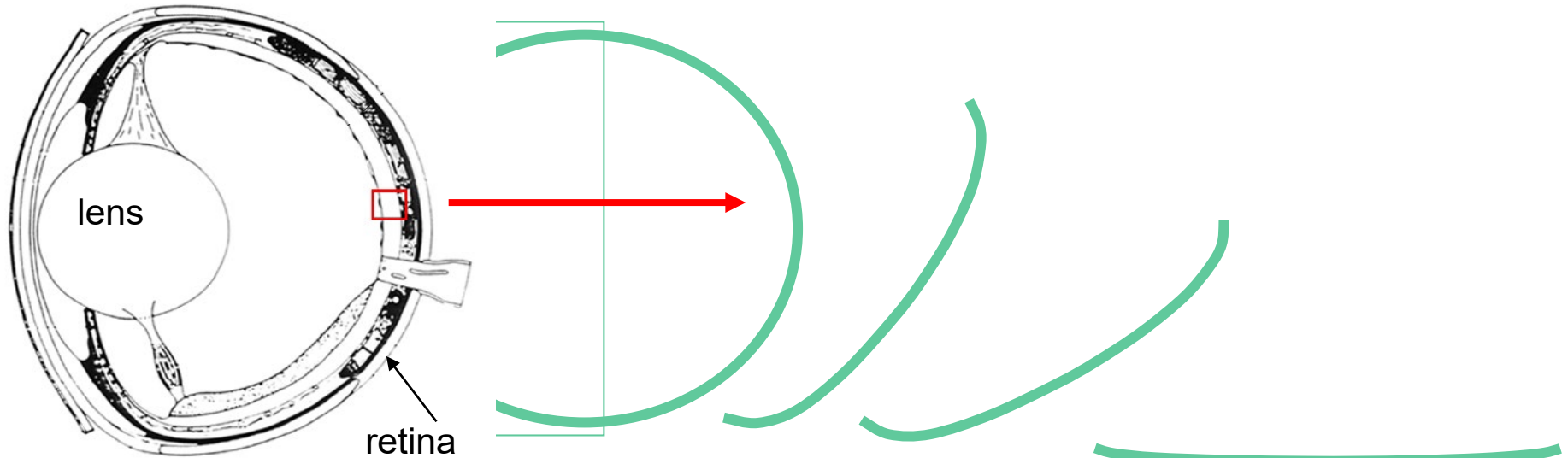
**Toad and fish pracs**



# Retinal ganglion cell distribution

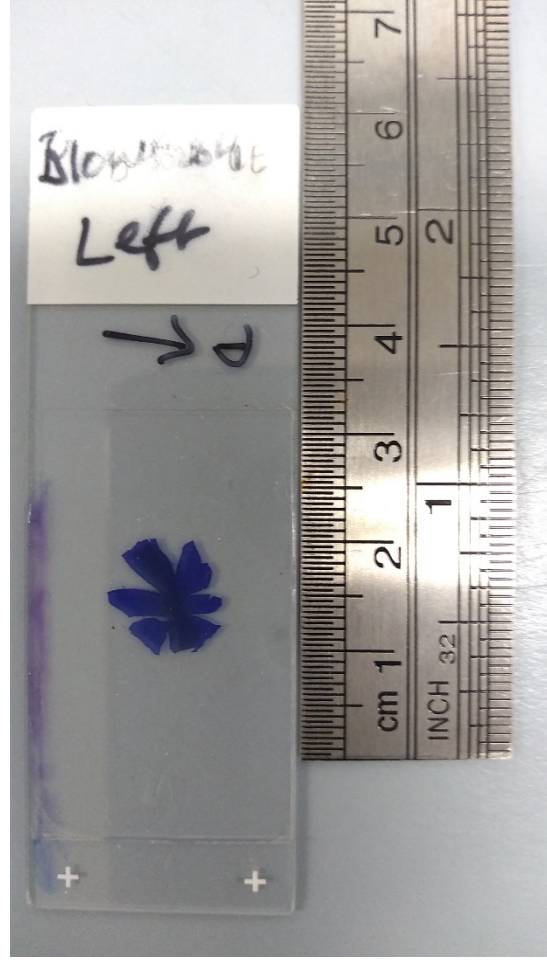
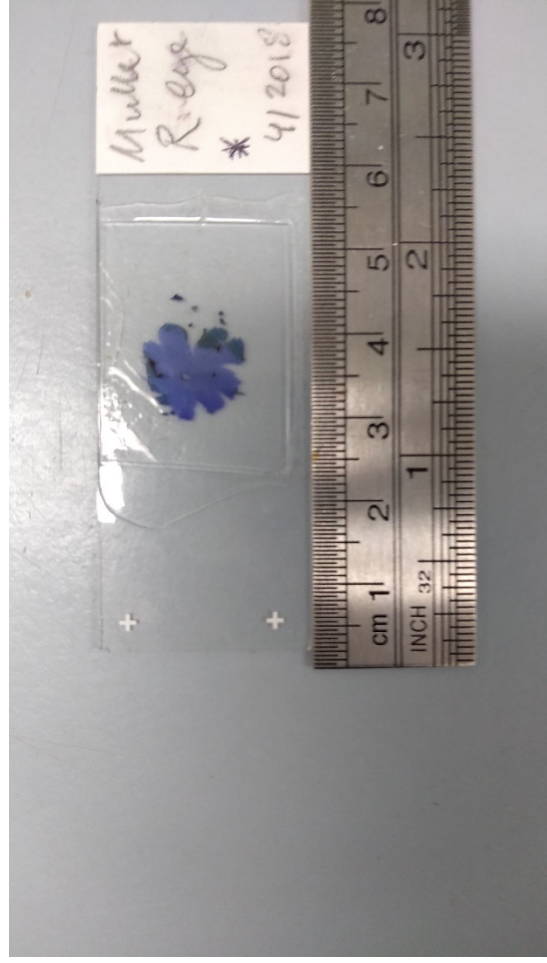
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Toad pracs



retinal wholemount

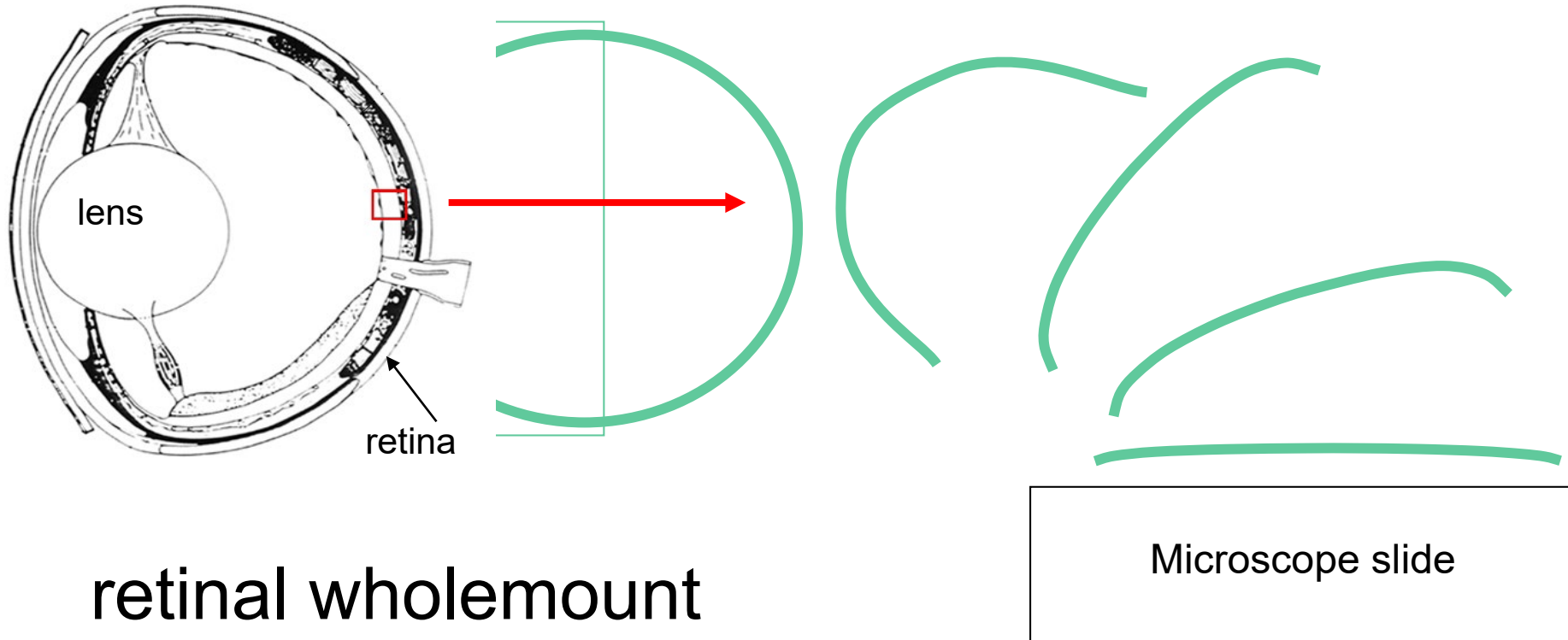
- type of regional specialisations
- part of environment sampled accurately





# Photoreceptor cell distribution

Fish and Bird Pracs

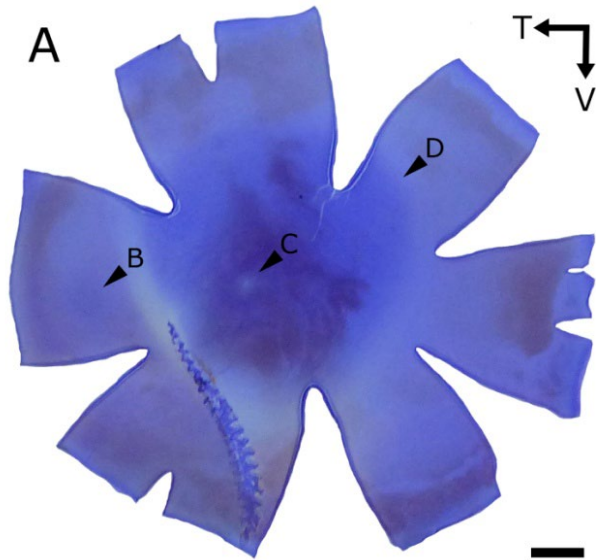


retinal wholemount

- type of regional specialisations
- part of environment sampled accurately



# Some other techniques for studying retinal specialisations



VS

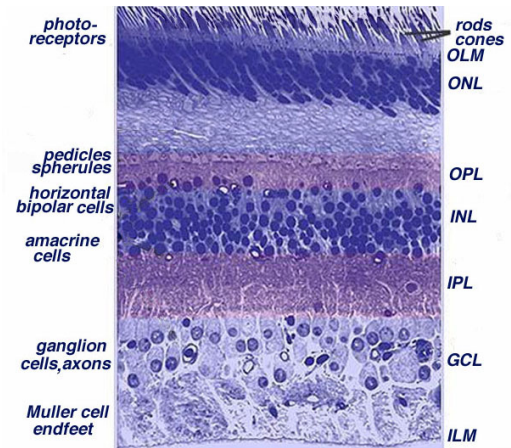


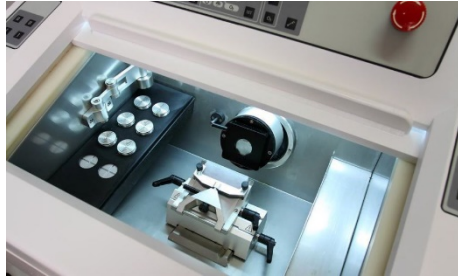
Fig. 3. Light micrograph of a vertical section through central human retina.

Wholemounts 😊

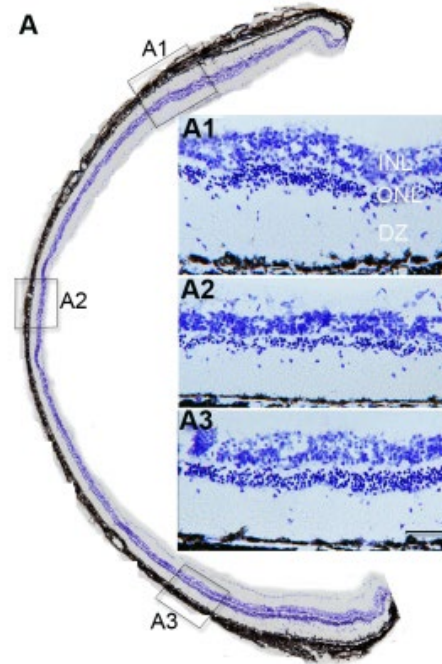
How do you get sections?



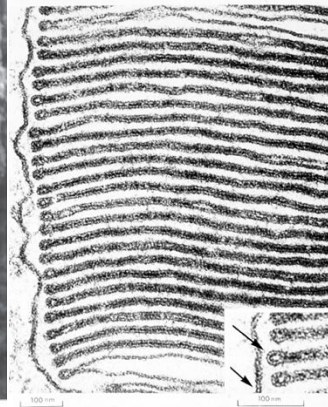
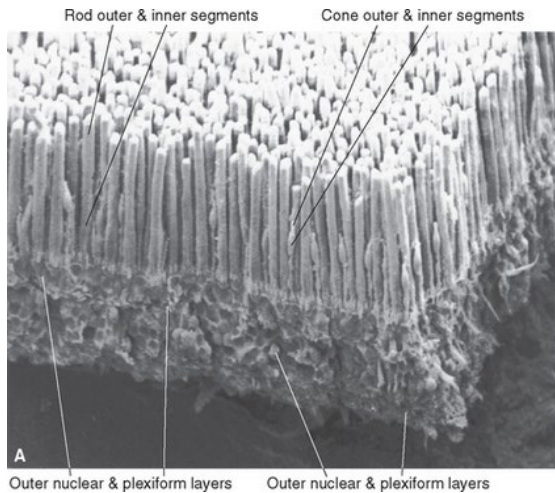
# Cryostat



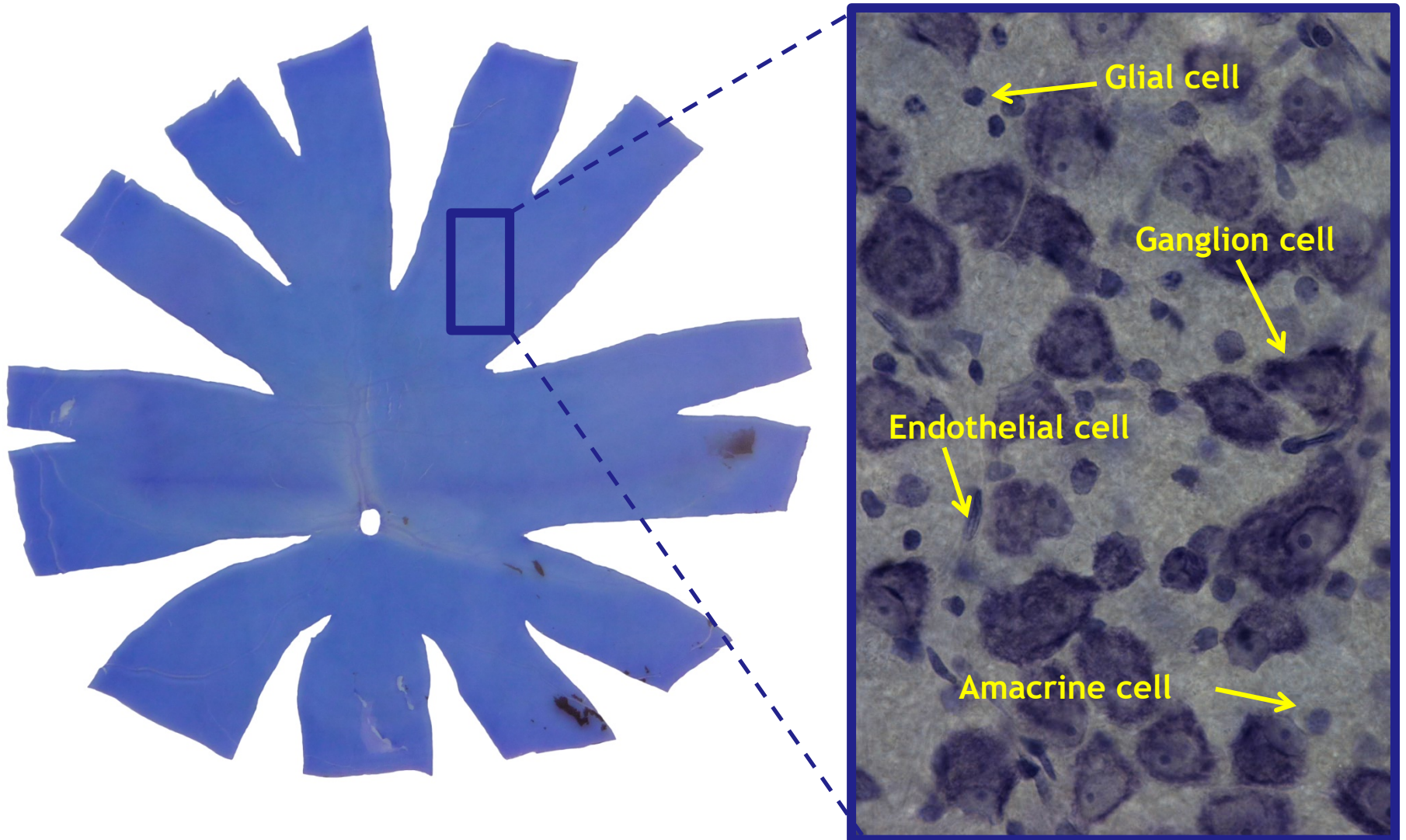
# Light microscopy



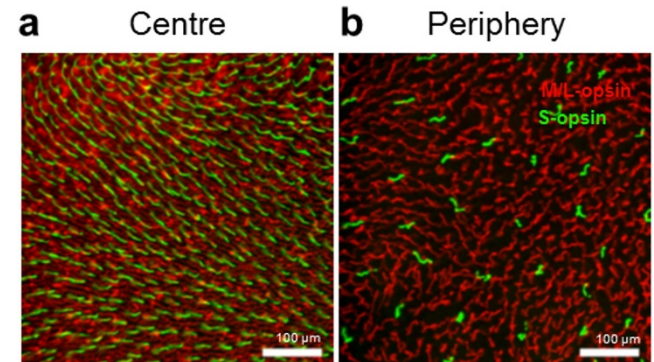
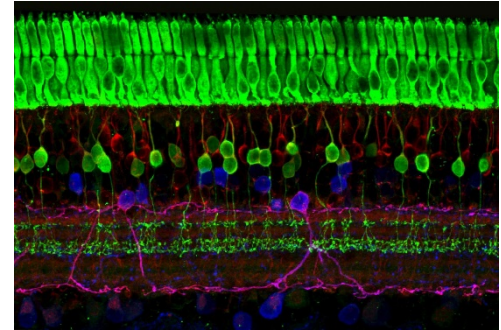
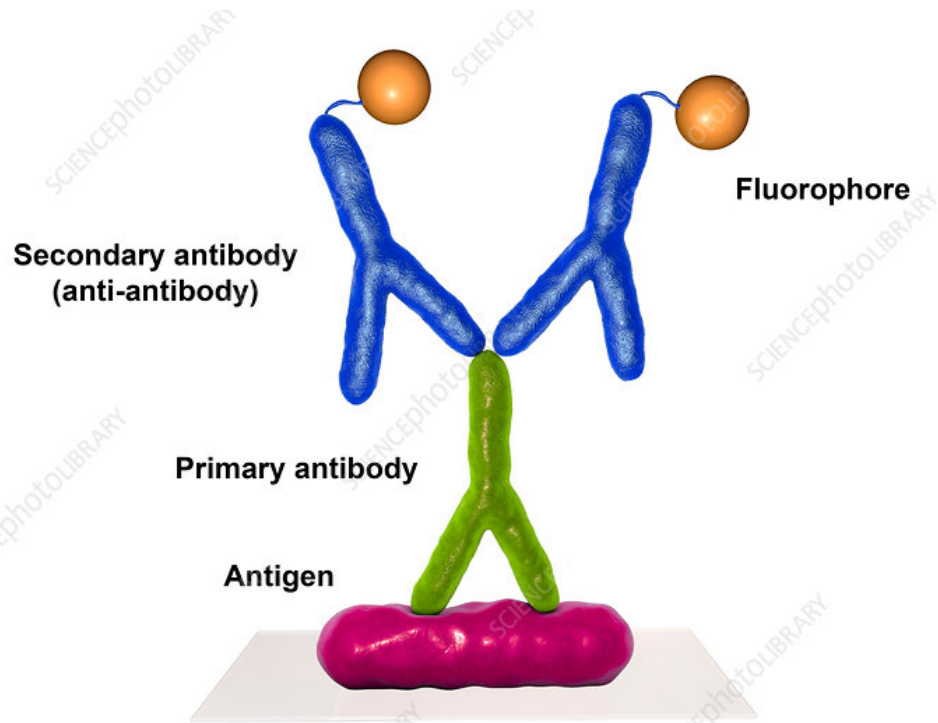
# Electron microscopy



# The retinal wholemount and retinal cell types



# Immunohistochemistry





# Neuronal tracing techniques

